



SEQUENCE LISTING

<110> Bienkowski, Michael J.
Heinrikson, Robert L.

<120> Heparanase II, A Novel Human Heparanase Paralog

<130> heparanase II

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<170> PatentIn Ver. 2.1

<210> 1
<211> 2326
<212> DNA
<213> Homo sapiens

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<211> 534
<212> PRT
<213> Homo sapiens

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 35 40 45
 Val Asp Arg Ala Ala Gly Leu Lys Glu Lys Thr Leu Ile Leu Leu Asp
 50 55 60
 Val Ser Thr Lys Asn Pro Val Arg Thr Val Asn Glu Asn Phe Leu Ser
 65 70 75 80
 Leu Gln Leu Asp Pro Ser Ile Ile His Asp Gly Trp Leu Asp Phe Leu
 85 90 95
 Ser Ser Lys Arg Leu Val Thr Leu Ala Arg Gly Leu Ser Pro Ala Phe
 100 105 110
 Leu Arg Phe Gly Gly Lys Arg Thr Asp Phe Leu Gln Phe Gln Asn Leu
 115 120 125
 Arg Asn Pro Ala Lys Ser Arg Gly Gly Pro Asp Tyr Tyr Leu
 130 135 140
 Lys Asn Tyr Glu Asp Asp Ile Val Arg Ser Asp Val Ala Leu Asp Lys
 145 150 155 160
 Gln Lys Gly Cys Lys Ile Ala Gln His Pro Asp Val Met Leu Glu Leu
 165 170 175
 Gln Arg Glu Lys Ala Ala Gln Met His Leu Val Leu Leu Lys Glu Gln
 180 185 190
 Phe Ser Asn Thr Tyr Ser Asn Leu Ile Leu Thr Glu Pro Asn Asn Tyr
 195 200 205
 Arg Thr Met His Gly Arg Ala Val Asn Gly Ser Gln Leu Gly Lys Asp
 210 215 220
 Tyr Ile Gln Leu Lys Ser Leu Leu Gln Pro Ile Arg Ile Tyr Ser Arg
 225 230 235 240
 Ala Ser Leu Tyr Gly Pro Asn Ile Gly Arg Pro Arg Lys Asn Val Ile
 245 250 255
 Ala Leu Leu Asp Gly Phe Met Lys Val Ala Gly Ser Thr Val Asp Ala
 260 265 270
 Val Thr Trp Gln His Cys Tyr Ile Asp Gly Arg Val Val Lys Val Met
 275 280 285
 Asp Phe Leu Lys Thr Arg Leu Leu Asp Thr Leu Ser Asp Gln Ile Arg
 290 295 300
 Lys Ile Gln Lys Val Val Asn Thr Tyr Thr Pro Gly Lys Lys Ile Trp
 305 310 315 320
 Leu Glu Gly Val Val Thr Thr Ser Ala Gly Gly Thr Asn Asn Leu Ser
 325 330 335
 Asp Ser Tyr Ala Ala Gly Phe Leu Trp Leu Asn Thr Leu Gly Met Leu
 340 345 350
 Ala Asn Gln Gly Ile Asp Val Val Ile Arg His Ser Phe Phe Asp His

355	360	365
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Tyr		
Asn		
His		
Leu		
Val		
Asp		
Gln		
Asn		
Phe		
Asn		
Pro		
Leu		
Pro		
Asp		
Tyr		
370	375	380
Trp		
Leu		
Ser		
Leu		
Leu		
Tyr		
Lys		
Arg		
Leu		
Ile		
Gly		
Pro		
Lys		
Val		
Ala		
Gly		
Leu		
Gln		
Arg		
Lys		
405		
405	410	415
Val		
His		
Val		
Ala		
Gly		
Leu		
Gln		
Arg		
Lys		
420		
420	425	430
Arg		
Asp		
Lys		
Leu		
Arg		
Ile		
Tyr		
Ala		
His		
Cys		
Thr		
Asn		
His		
Asn		
His		
Asn		
Tyr		
Val		
Arg		
Gly		
Ser		
Ile		
Thr		
Leu		
Phe		
Ile		
Ile		
Asn		
Leu		
His		
Arg		
435		
435	440	445
Ser		
Arg		
Lys		
Ile		
Lys		
Leu		
Ala		
Gly		
Thr		
Leu		
Arg		
Asp		
Lys		
Leu		
Val		
450		
450	455	460
His		
Gln		
Tyr		
Leu		
Leu		
Gln		
Pro		
Tyr		
Gly		
Gln		
465		
465	470	475
Ser		
Val		
Gln		
Leu		
Asn		
Gly		
Gln		
Pro		
Leu		
Val		
Met		
Val		
Asp		
Asp		
Gly		
Thr		
485		
485	490	495
Leu		
Pro		
Glu		
Leu		
Lys		
Pro		
Arg		
Pro		
Leu		
Arg		
Ala		
Gly		
Arg		
Thr		
Leu		
Val		
500		
500	505	510
Ile		
Pro		
Pro		
Val		
Thr		
Met		
Gly		
Phe		
Phe		
Val		
Val		
Lys		
Asn		
Val		
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Cys		
Arg		
Tyr		
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<210> 3
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 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:PCR Primers

<400> 3
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<210> 4
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:PCR Primers

<400> 4
 cgagccagcc atcatgaatg atg 23

<210> 5
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 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:PCR Primers

<400> 5
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<210> 6
<211> 543
<212> PRT
<213> Homo sapiens

<400> 6

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Leu Leu Gly Pro Leu Gly Pro Leu Ser Pro Gly Ala Leu Pro Arg Pro
20 25 30

Ala Gln Ala Gln Asp Val Val Asp Leu Asp Phe Phe Thr Gln Glu Pro
35 40 45

Leu His Leu Val Ser Pro Ser Phe Leu Ser Val Thr Ile Asp Ala Asn
50 55 60

Leu Ala Thr Asp Pro Arg Phe Leu Ile Leu Leu Gly Ser Pro Lys Leu
65 70 75 80

Arg Thr Leu Ala Arg Gly Leu Ser Pro Ala Tyr Leu Arg Phe Gly Gly
85 90 95

Thr Lys Thr Asp Phe Leu Ile Phe Asp Pro Lys Lys Glu Ser Thr Phe
100 105 110

Glu Glu Arg Ser Tyr Trp Gln Ser Gln Val Asn Gln Asp Ile Cys Lys
115 120 125

Tyr Gly Ser Ile Pro Pro Asp Val Glu Glu Lys Leu Arg Leu Glu Trp
130 135 140

Pro Tyr Gln Glu Gln Leu Leu Leu Arg Glu His Tyr Gln Lys Lys Phe
145 150 155 160

Lys Asn Ser Thr Tyr Ser Arg Ser Ser Val Asp Val Leu Tyr Thr Phe
165 170 175

Ala Asn Cys Ser Gly Leu Asp Leu Ile Phe Gly Leu Asn Ala Leu Leu
180 185 190

Arg Thr Ala Asp Leu Gln Trp Asn Ser Ser Asn Ala Gln Leu Leu Leu
195 200 205

Asp Tyr Cys Ser Ser Lys Gly Tyr Asn Ile Ser Trp Glu Leu Gly Asn
210 215 220

Glu Pro Asn Ser Phe Leu Lys Lys Ala Asp Ile Phe Ile Asn Gly Ser

225	230	235	240
Gln Leu Gly Glu Asp Phe Ile Gln Leu His Lys Leu Leu Arg Lys Ser			
245	250	255	
Thr Phe Lys Asn Ala Lys Leu Tyr Gly Pro Asp Val Gly Gln Pro Arg			
260	265	270	
Arg Lys Thr Ala Lys Met Leu Lys Ser Phe Leu Lys Ala Gly Gly Glu			
275	280	285	
Val Ile Asp Ser Val Thr Trp His His Tyr Tyr Leu Asn Gly Arg Thr			
290	295	300	
Ala Thr Lys Glu Asp Phe Leu Asn Pro Asp Val Leu Asp Ile Phe Ile			
305	310	315	320
Ser Ser Val Gln Lys Val Phe Gln Val Val Glu Ser Thr Arg Pro Gly			
325	330	335	
Lys Lys Val Trp Leu Gly Glu Thr Ser Ser Ala Tyr Gly Gly Ala			
340	345	350	
Pro Leu Leu Ser Asp Thr Phe Ala Ala Gly Phe Met Trp Leu Asp Lys			
355	.	360	365
Leu Gly Leu Ser Ala Arg Met Gly Ile Glu Val Val Met Arg Gln Val			
370	375	380	
Phe Phe Gly Ala Gly Asn Tyr His Leu Val Asp Glu Asn Phe Asp Pro			
385	390	395	400
Leu Pro Asp Tyr Trp Leu Ser Leu Leu Phe Lys Lys Leu Val Gly Thr			
405	410	415	
Lys Val Leu Met Ala Ser Val Gln Gly Ser Lys Arg Arg Lys Leu Arg			
420	425	430	
Val Tyr Leu His Cys Thr Asn Thr Asp Asn Pro Arg Tyr Lys Glu Gly			
435	440	445	
Asp Leu Thr Leu Tyr Ala Ile Asn Leu His Asn Val Thr Lys Tyr Leu			
450	455	460	
Arg Leu Pro Tyr Pro Phe Ser Asn Lys Gln Val Asp Lys Tyr Leu Leu			
465	470	475	480
Arg Pro Leu Gly Pro His Gly Leu Leu Ser Lys Ser Val Gln Leu Asn			
485	490	495	
Gly Leu Thr Leu Lys Met Val Asp Asp Gln Thr Leu Pro Pro Leu Met			

500

505

510

Glu Lys Pro Leu Arg Pro Gly Ser Ser Leu Gly Leu Pro Ala Phe Ser
515 520 , 525

Tyr Ser Phe Phe Val Ile Arg Asn Ala Lys Val Ala Ala Cys Ile
530 535 540